

This page contains answers to common questions handled by our support staff, along with some tips and tricks that we have found useful and presented here as questions.

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[What are the basic differences between the four AQMD approved products offered for sale within states having VOC regulations?](#)

Essentially, clear waterproofing products are either water based or solvent based. KL-23,

KL-25, KL-33, , AG-11, [AG-13](#), KL-35 and NP250 are water based products.

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Why two base compositions? What are the application differences between the solvent and water based products?

A short-form answer to this problem does not exist. Concerning product differences, with respect to carrier bases (solvent vs. water), the first notable difference is price. Solvent based products are certainly more expensive than the other water based products. Concerning differences in application, water based products may have a tendency to 'blush' or 'cloud' if misapplied to a dark brick substrate, that is why Combocrete hesitates to recommend the application of water based materials to brick or brick veneer substrates. While, on the other hand, [Microcrete](#) and [Stain-Blok](#) products water-based products perform quite well on these substrates. One very important comment concerning the difference between water and solvent based products you must understand that all clear liquid waterproofing products are designed to resist the penetration of water into the substrate. Application of a second coat of water based product, therefore, would be impossible since the first coat would prohibit, or repel, the second water based coat from penetrating the first coat. The attempted second coat would simply dry on the surface and eventually turn into a chalky residue.

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[What types of masonry substrates should be specified with clear water repellent products manufactured by Combocrete International?](#)

Typically, the following substrates will be specified with a clear water repellent; Concrete Block, Brick, Brick Veneer, Plaster/Stucco, Cast In Place Concrete, Tilt-Up, and Stone (granite, marble, limestone, etc.).

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What types of concrete block will be encountered, and what waterproofing product

applications are recommended?

By definition, concrete block is a manmade concrete masonry unit, or CMU. Usually rectangular in shape, concrete blocks normally feature hollow cores and are stacked upon one another. As the blocks are stacked, they are held together by mortar, and as the wall is being erected the hollow cores are filled with grout in order to strengthen the wall as it takes height. Concrete block is manufactured in a number of architectural styles such as split face, fluted, ground face, etc. Concerning waterproofing product selection with reference to concrete block, one of two materials should always be specified.... either Combocrete KL-23 or [Combocrete Stain- Blok](#). The essential difference between these two products is warranty duration. While Regular features a 5-year warranty, the Blok-Lok warranty may be extended to 10-years.

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How does waterproofing brick exterior walls differ from concrete block?

Let us first address the types of brick and brick systems which are usually encountered. Brick can be manufactured in a number of fashions, ranging from full-face new brick, to brick veneer, clay brick, used brick, colored brick, brick pavers, and many more. The type of brick utilized or the method in which it is erected will have no effect upon selection of waterproofing material. [Microcrete or Stain-Blok](#). Brick, of course, is composed of a denser material than concrete block; therefore, the permeability of the substrate will differ drastically. In other words, it takes longer for a liquid to soak into a dense surface than it does a porous material. Due to its specific design for porous surfaces, water based materials will not completely penetrate typical brick and may result in 'whiting or blushing' of the brick wall.

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In addition to concrete block and brick, stucco (cement plaster) is widely used. What waterproofing materials are usually specified on this substrate? Is it true that paint alone applied over stucco will provide an adequate waterproof barrier?

Stucco is one of the most porous building materials utilized within the construction industry.... an untreated plaster wall will absorb water like a sponge! Many Architects

specify colored stucco (color coat) in an effort to achieve a one-step aesthetic effect, but neglect the application of waterproofing. As a result, the continued wetting & drying out process 'leaches' the color from the colored stucco much like the repeated washing of a pair of blue jeans. Additionally, certain Architects feel that the application of outdoor paint will act to seal the substrate - their argument is simple, "water will not penetrate paint".

Let us first address the paint issue when stucco cures, or dries after its original application, it has a tendency to shrink and exhibit hairline cracks. Also, as time passes, the building will shift, causing further cracks. True, when first applied, paint will provide a waterproof barrier; however, one must understand that paint does not stretch, and cracks within the stucco, regardless of size, will telegraph outward through the paint. As the painted wall surface is exposed to water or moisture over time, this moisture will enter the stucco through the cracks in the paint as time passes, the accumulated moisture in the stucco, behind the paint, will break the paint's adhesion and the once uniform surface will begin to blister and peel.

Let us not underestimate the damage that water can cause within the stucco wall itself. In cases where water has migrated behind the paint on untreated stucco, water intrusion within the substrate is a certainty . The only failsafe at this point in time is the waterproof building paper back-up which was applied prior to the stucco. In most cases, this paper is either torn or improperly overlapped at time of application, and moisture will ultimately enter the building's interior over time resulting in interior wall stains, mildew and failure, not to mention the ultimate deterioration of the cement plaster itself.

In all cases, waterproofing products should be applied to cement plaster! In cases in which paint is specified for use, the application of a water repellent product must take place prior to painting. When addressing the issue of product selection, Combocrete KL-23 or Combocrete KL-25 should be recommended. A viable alternative to the application of clear liquid waterproofing and paint upon stucco is the utilization of an elastomeric coating. Widely specified by Architects, Combocrete KL-18 provides a 'stretchable' protective coating which resembles paint in its color and appearance.

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Now let's discuss 'Cast-In-Place' and 'Tilt-Up' concrete construction techniques and applicable

waterproofing recommendations.

Unique in their nature, these methods of construction are widely used in large industrial, commercial and office projects. Cast-In-Place and Tilt-Up construction specifies the use of solid concrete as the exterior substrate. Concerning pre-cast construction, large concrete panels, or wall sections, are either pre-cast at the factory or cast on site and then tilted up into their vertical position. Cast-In-Place also features a solid concrete wall surface, but instead of tilting up the panels, wood or metal forms which have been built around proposed wall areas are filled with liquid concrete and, consequently, the wall actually cures or sets-up in place.

Frankly, due to their density and absence of mortar joints, these substrates rarely leak except where they crack. Architects, therefore, rarely specify an exterior waterproof coating material application. They do, on the other hand, often specify exterior sealers, such as [Combocrete Color-Lok](#) KL-33, which act to protect the wall from staining. Moisture and rain will, of course, penetrate the substrate, but due to the density and thickness of the wall itself, will not travel into the interior of the building. There are, however, other considerations which must be addressed. Although leakage will not occur, rain contains a number of airborne pollutants and penetration into the substrate will ultimately result in staining and efflorescence as the moisture escapes the substrate during the drying process. The application of Combocrete KI-25 will prevent the intrusion of moisture and subsequent staining. Although water based, Combocrete KI-25 has been formulated to penetrate denser concrete substrates.

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Due to their appearance, marble and granite seem to be quite dense. Do these substrates require waterproofing?

Absolutely. Have you ever noticed the effect created upon a piece of sandblasted marble, limestone or granite after it has been sprayed with water? A very light material will take on a dark gray or black appearance after the water has penetrated! Yes, moisture will indeed penetrate these substrates and, compounding this porosity, is the fact that some marble, limestone and granite panels are usually a mere 1 to 1.5 inches thick. It certainly does not take long for absolute water transmission through the substrate. Cautionary note, test the application of any material upon these substrates, as they may effect the appearance of the stone. Due to its specific formulation, [KL-25](#) is normally recommended for stone

applications. A small test sample should always be applied prior to commencing the entire application.

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Are specialized contractors or equipment required to apply Combocrete waterproofing products?

No, in most cases the painting or waterproofing sub-contractor applies these products. Concerning equipment, utilization of a high-volume, low-pressure airless paint spraying system is recommended. Painters usually possess this type of equipment. For small applications, a garden type sprayer may be used; however, do not attempt application with a paint roller or brush.

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Can Combocrete waterproofing products be applied immediately after the wall has been erected?

Absolutely not! New masonry or concrete must be allowed to cure, or dry, for thirty days prior to application.

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What other factors must be taken into consideration prior to applying Combocrete waterproofing products?

Allow us to address the moisture related issues first. Even if the wall has cured for the prescribed period of time, the substrate should be allowed four to seven days drying time following rainfall or power-washing. Never allow the application of these products if rainfall is imminent. Concerning another pre-application issue, it is the responsibility of each Account Manager to inspect the substrate and associated areas prior to product application. Mortar joints must be inspected to assure proper tooling (no bee holes or shrinkage cracks), the roof cap must be properly installed, parapet walls must be properly addressed, and the substrate must, of course, be clean and dry. Only after such time that all pre-application deficiencies have been corrected will the sub-contractor be authorized

to proceed. As a rule, all pre-inspection memoranda are directed to the sub-contractor and general contractor in written form.

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Do Combocrete waterproofing products have any performance limitations?

First of all, clear liquid waterproofing products are not designed to function in below-grade applications. Secondly, liquid waterproofing materials are not designed to fill holes or voids in faulty mortar joint areas. These products are designed to penetrate the substrate, not to create a surface film or sealant coat. As previously discussed, care should be taken to assure the proper tooling of mortar joints. Lastly, liquid waterproofing products do not demonstrate maximum efficiency under standing water conditions. Product application, therefore, upon horizontal masonry surfaces is not warranted. As an example, typical rainfall upon a masonry window ledge will result in an average of one-eighth inch of standing water during the storm.

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Which grade of material should I recommend?

One must thoroughly understand the dynamics behind the penetration and resultant performance of clear liquid waterproofing materials. As discussed else where in this training manual, Combocrete products feature the exclusive Micro-Lok chemical reactive characteristic. This chemical interaction within the substrate that ultimately acts to repel water is only achieved by 100% penetration of our products into the wall surface. The solids which are dissolved within the liquid solution are carried into the substrate and, of course, the speed in which they penetrate depends entirely upon the density or porosity of the building material.

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[What is efflorescence and what can be done about it?](#)

Please refer to: [EFFLORESCENCE: A Simple Explanation, a Simple Solution](#)

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